

**Work Order ID 62975**

Thursday, October 14, 2010 12:42:39 PM



Page 1

Item ID: D3391-015

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Tube Assembly

Start Date: 10/14/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 10/22/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals:

Process Plan:           Date: 10/10/14Tooling:           Date:           

Run Start

QC:           Date:           SPC (Y/N):           Date:           

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D3391

Rev H

100

0.00



MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.00

Mori Seiki CNC Lathe Large

Turn as per Folio FA599 Rev:        & Dwg D3391 Rev:       

SA 10/11/30

110

0.00



QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

SA 10/11/30

120

0.00



HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA 599 Rev: AA & Dwg D3391 Rev: U  
2-Deburr

SL 11/02/14

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng/ Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00

SL

11/02/14



QC

Memo

0.00

Quality Control

140

QC8- Inspect parts - second check

0.00



QC

Memo

0.00

Quality Control

11.2.15

①

150

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

1-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

DP

11-2-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

160



CNC Bend I

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

Form as per Dwg D3391

0.00

0.00

DP

11-2-23

170



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

4.087<sup>16</sup>

1 0 BE 4/02/23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill float bag holes using DT8809 as per Dwg D3391(All holes)

3-Drill wearplate holes as per Dwg D3391 using DT8878(Mid Tube) & DT8217  
Wearplate Jig

\*\*\*\*\*Do Not Open To Finished Size\*\*\*\*\*

4-Drill Wearshoe holes as per DWG D3391 using DT8939 locating from 2  
previously drilled aft wearplate holes.

5-Open wearplate holes to 0.250" and c'bore as per dwg D3391

6-Open up all wearshoe, wearplate to 0.297" and float bag holes to 0.328" as per  
Dwg D3391.7- Transfer holes from D3391-013 for electric step. Open holes as per dwg D3391  
section cc-cc

8-Deburr

11-4-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Run Start

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

200

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

205

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Revision ID:					Stop	
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Start Date:	10/14/2010	Start Qty:	1.00		Cust Item ID:	
Required Date:	10/22/2010	Req'd Qty:	1.00		Customer:	
Reference:						

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210  Skidtubes	Skidtubes	0.00				1			08/20/11
Skidtubes	Memo	0.00							
Skidtubes	1-Install crossbolt spacers per dwg D3391 A/R Magnabond 6398 batch: <i>M116678 08/20/11</i>								
	2- Grind flush	<i>11-05-06</i>							
220  QC	QC5- Inspect part completeness to step on W/O	0.00				40			
Quality Control	Memo	0.00							
225  HandFinish	Pressure Wash per QSI005 4.3	0.00							
Hand Finishing	Memo	0.00							
	AND REALODINE AS PER PAR09-043								

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Cust Item ID:

Required Date: 10/22/2010 Req'd Qty: 1.00

Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

230

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Powder Coating

Memo

START TIME: 2:45  
OVEN TEMPERATURE: 320  
FINISH TIME: 3:15

1X 11/05/09

240

QC3- Inspect Part Finish

0.00



QC

Quality Control

Memo

1 11/05/10

250

HandFinishing

0.00



HandFinish

Hand Finishing

Memo

1-Install inserts per dwg D3391  
2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 1116945  
Sikaflex expiry date: 12/01

1 11/05/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

260



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

8/11/12

270



Packaging

Packaging

Identify as per dwg & Stock Location: w/o

0.00 D42-742-041/668635

Memo

0.00

x1 of 11 10/5/10

280



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

11/5/12

MF  
11-05-12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

Thursday, October 14, 2010 12:42:43 PM

Page 1

Work Order ID: 62975

Parent Item: D3391-015

Parent Item Name: Aft Tube Assembly



Start Date: 10/14/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP rev A 05.12.13 New issue EC  
 IPP rev B 06.02.09 Dwg @ revD EC  
 IPP rev C 07.03.13 dwg @revF ec  
 IPP rev D 07.10.31 ecn 1053P EC  
 IPP Rev:E ECN 1056 07-11-13 DD verified by: EC  
 IPP Rev:F 08-09-10 revH as per dwg DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN960C10L	NAS1149C0332 R	Purchased	No			100	Each	29.0000	10	10			



washer

M117291



(x10) JH 11/05/10

Location	Loc Qty	Loc Code
ST245	29	
107534	29	

D6014-090

Manufactured No

210 Each 29.0000

1



ALUMINUM EXTRUSION



1 SA 10/11/30

Location	Loc Qty	Loc Code
LG	29	
56572	29	

ALS4-1032-130

Purchased No

250 Each 969.0000

14



Insert



14 ~~SA~~ 11/05/10

Location	Loc Qty	Loc Code
PKG11	920	
114723	920	
ST282	10	
110511	10	
ST381	39	
114654	39	

M117331

x14

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Parent Item Name: Aft Tube Assembly

Start Date: 10/14/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

ALS4-1032-225 Purchased

No

250

Each

4,860.000

12

12



Insert



11/05/10

Location

Loc Qty

Loc Code

PK011

4860

110768

4860

x12

ALS4-428-165 Purchased

No

250

Each

107.0000

4

4



Inserts



11/05/10

Location

Loc Qty

Loc Code

FP

7

6989

7

ST282

100

114172

100

x4

AN3C4A Purchased

No

250

Each

1,361.000

6

6



BOLT



11/05/10

Location

Loc Qty

Loc Code

ST303

3

115438

3

11/17/10

x6

ST350

1358

114108

14

114416

12

114523

2

115300

330

115589

1000

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
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Start Date: 10/14/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

250

Each

1,169.000

4

4



Bolt



41

11/05/10

Location

Loc Qty

Loc Code

ST350

1159

1116419

24

114330

11

115015

16

115371

100

115422

100

115594

432

115835

500

ST351

10

113121

10

D2646

Manufactured

No

250

Each

41.0000

1

1



Aft Cap



24

11/05/10

Location

Loc Qty

Loc Code

FP-4

36

57332

36

fp5

1

61752

1

FP6

4

52663

4

B62678

21

W/O:		WORK ORDER CHANGES					
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Start Date: 10/14/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

250

Each

14.0000

1

1



Wearpad



yl 11/05/10

LocationLoc QtyLoc Code

FP

1

B66135

yl

55465

1

FP017

6

61986

6

FP17

7

57713

3

60491

3

61640

1

D3537-7

Manufactured No

250

Each

15.0000

1

1



Wearpad



yl 11/05/10

LocationLoc QtyLoc Code

FP

5

46346

5

FP16

10

56831

10

D3553-1

Manufactured No

250

Each

41.0000

1

1



Gasket



yl 11/05/10

LocationLoc QtyLoc Code

FP

41

33868

1

56568

40

yl

Thursday, October 14, 2010 12:42:43 PM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Date: 10/14/2010

Required Date: 10/22/2010

Start Qty: 1.00

Required Qty: 1.00

D3553-3

Manufactured No

250

Each

45.0000

1

1



Gasket



11/05/10

Location

Loc Qty

Loc Code

FP

45

53480

45

x1

D3670-4-200

Manufactured No

250

Each

64.0000

14

14



SPACER



BE 11/05/03  
68107 (x14)

Location

Loc Qty

Loc Code

LG

64

57349

64

D3672-1

Manufactured No

250

Each

855.0000

2

2



Phenolic Washer



11/05/10

Location

Loc Qty

Loc Code

ST077

855

42329

150

52505

705

y2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 62975
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b> D3391-3
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> H	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.00	/		gph	SA-1
3.500	+/-0.010	3.501	/		Uer	SA-5
88.93	+/-0.030	88.93	/		gph	SA-
<del>44.995</del>	<del>+/-0.030</del>					
Ø3.200	+/-0.010	Ø3.208	/		Uer	SA-5
88.93	+/-0.030					
Ø3.750	+/-0.010	Ø3.750	/		Uer	SA-5
30° x 160° chamfer	+/-0.010	30° x 160°	/		Uer	SA-5

**Measured by:** *SA* **Date:** 12/11/30

**Audited by:** *SA* **Date:**

HAAS Section						
1.526	+0.000/-0.030	1.509	/		Vern C NC-02	
7.500	+/-0.010	7.499	/		"	
27.750	+/-0.010	27.750	/		m-tape	
31.750	+/-0.010	31.750	/		"	
35.250	+/-0.010	35.250	/		"	
3.300	+/-0.010	3.304	/		Vern C NC-02	
0.200	+/-0.010	.201	/		"	
3.520	+/-0.010	3.521	/		mic - LM4	
0.687	+0.010/-0.000	.692	/		"	
R0.062	+/-0.010	.062	/		R-G	
Ø0.484	+0.005/-0.001	.484	/		"	

**Measured by:** *SA* **Date:** 11/02/14

**Audited by:** *SA* **Date:** 11.2.15

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	
G	09.11.16	Dimension 0.200 removed	KJ	



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RITING

ENC

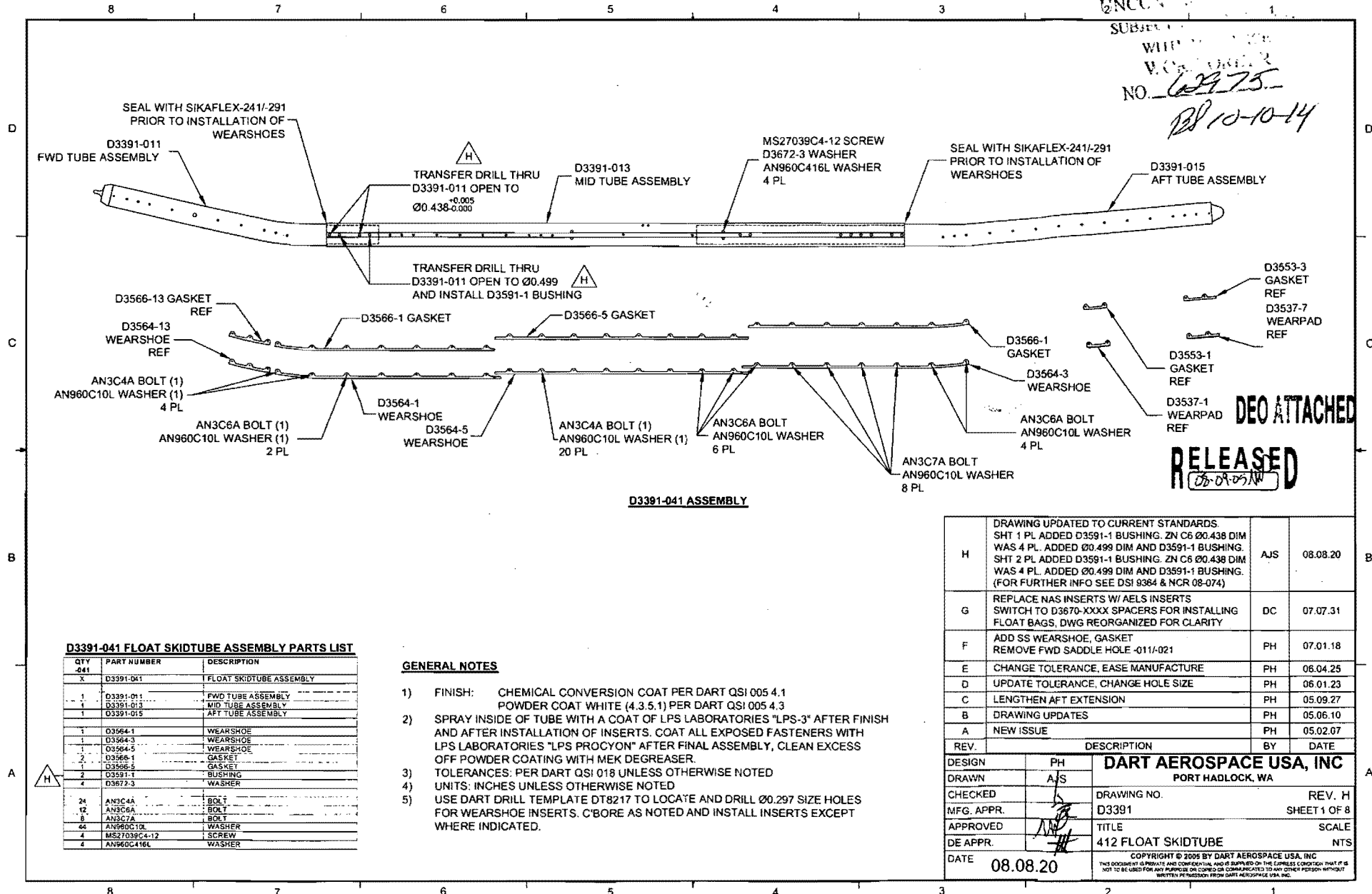
UNCONTROLLED

SUBJECT

WITH

NO. 62975

10-10-14



DEO ATTACHED

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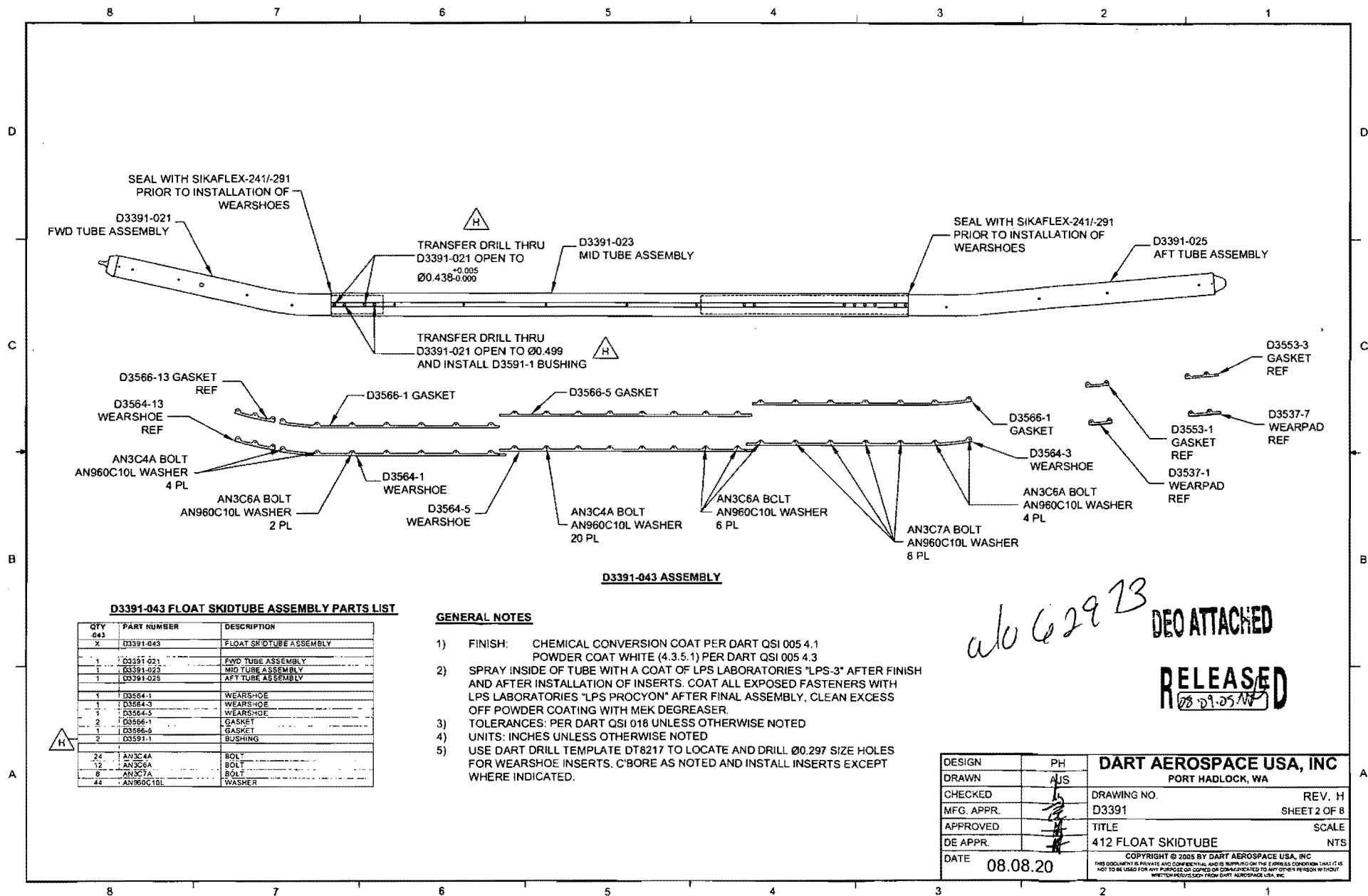
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

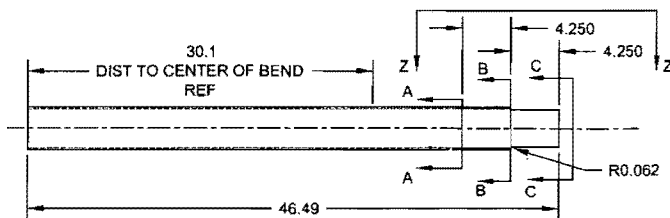
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

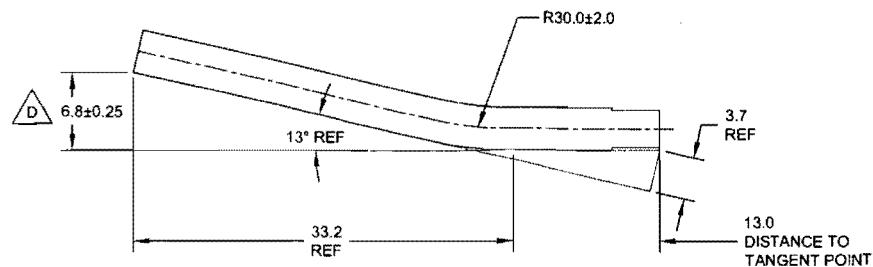
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**NOTE:** Date & initial all entries

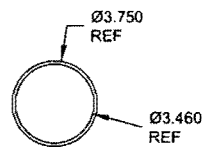




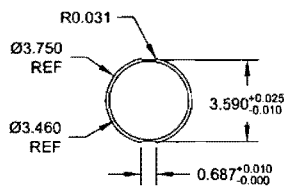
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(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



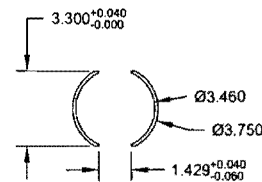
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



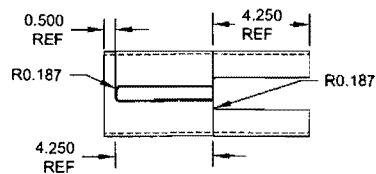
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X



**SECTION C-C**  
SCALE 2X



**VIEW Z-Z**  
SCALE 2X

*42975*

**DEO ATTACHED**  
**RELEASED**  
*28 JAN 05 NW*

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AUS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC</small>	

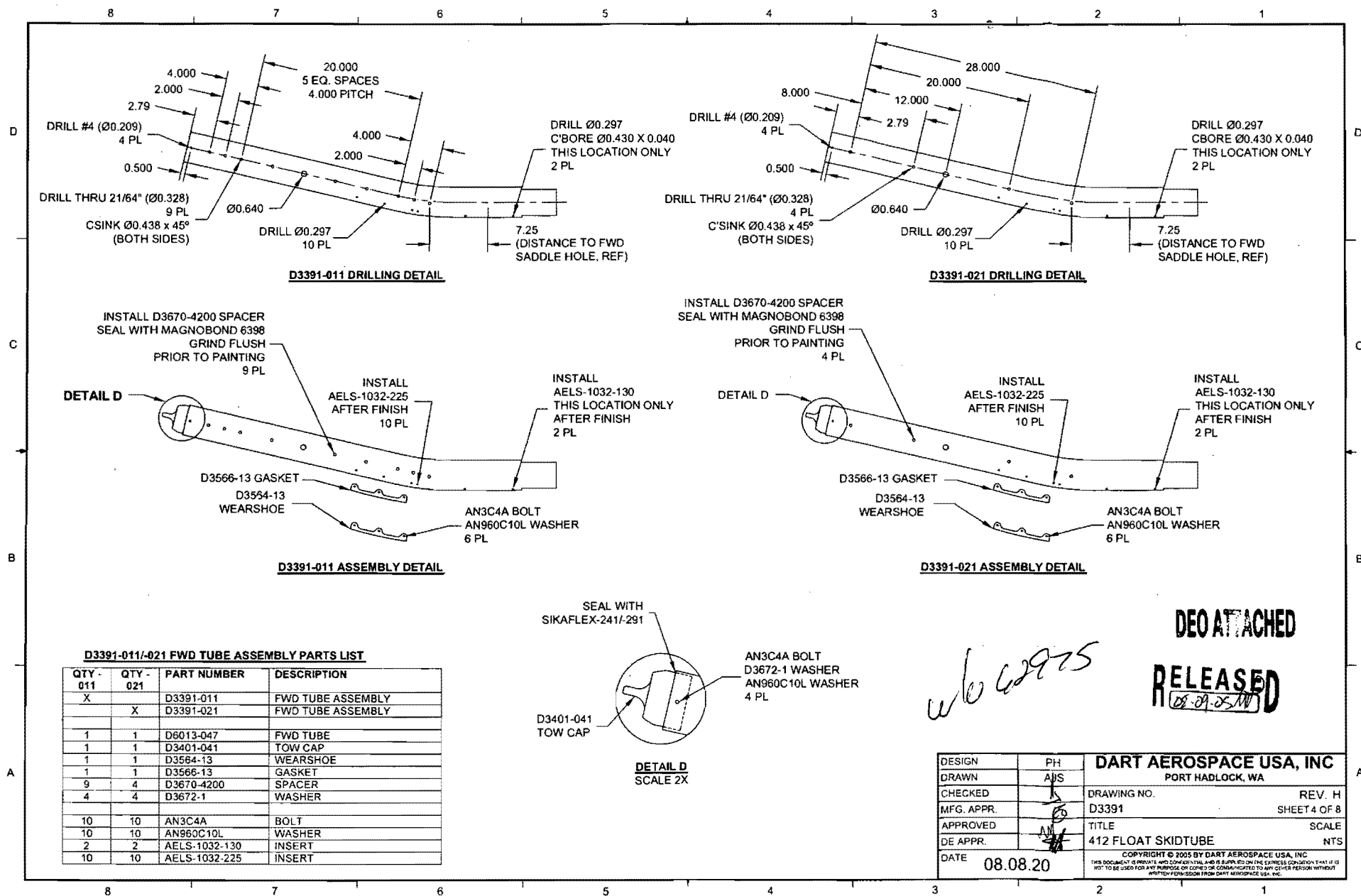
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



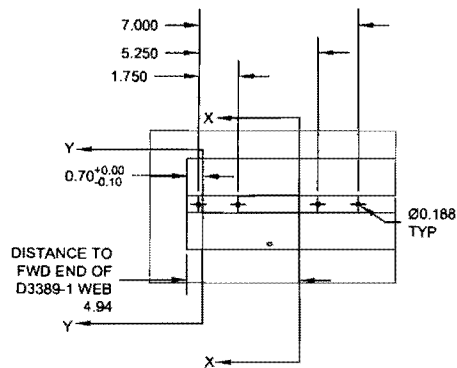
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

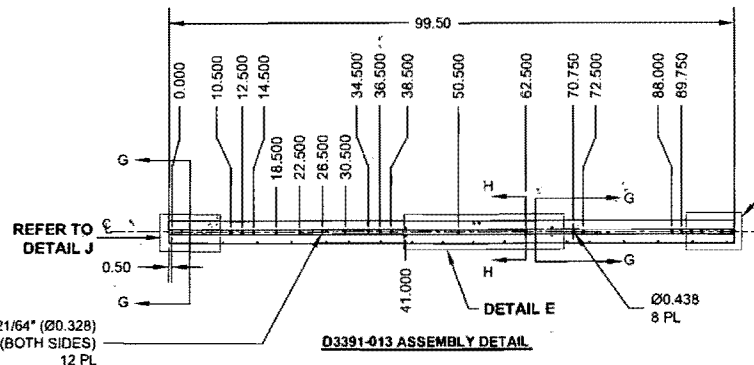
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



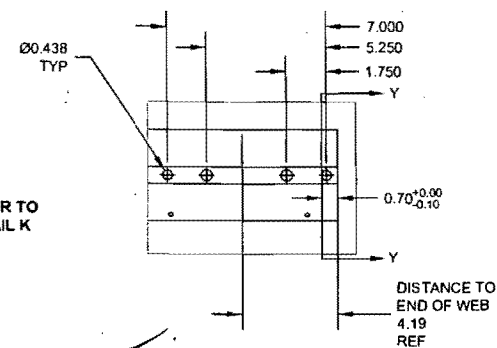
DETAIL J  
SCALE 4X

DRILL THRU 21/64" (Ø0.328)  
CSINK Ø0.438 X 45° (BOTH SIDES)  
12 PL



D3391-013 ASSEMBLY DETAIL

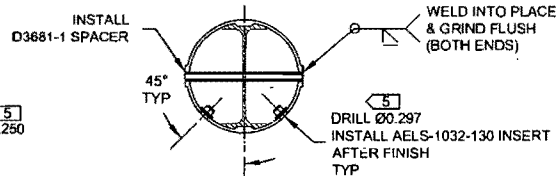
REFER TO  
DETAIL K



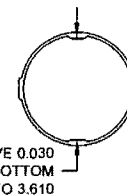
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SCALE 4X



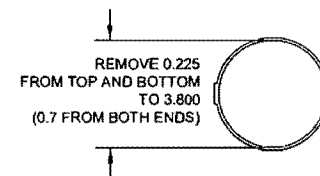
SECTION G-G  
SCALE 5X



SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
SCALE 5X

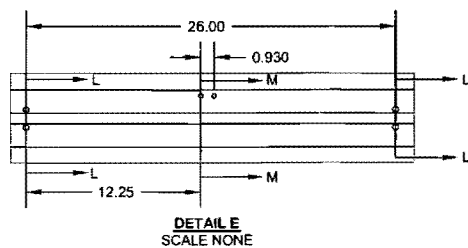
DRILL Ø0.297  
INSTALL AELS-1032-130 INSERT  
MS27039C1-09 SCREW  
D3672-1 WASHER  
AN960C10L WASHER  
AFTER FINISH  
4 PL

D3391-013 MID TUBE ASSEMBLY PARTS LIST

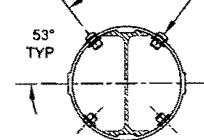
QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

D3391-013 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING: PER DART QSI 004

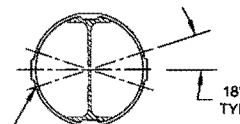


DETAIL E  
SCALE NONE

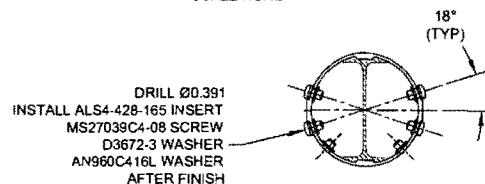


SECTION M-M  
SCALE 5X

DRILL Ø0.250  
4 PL



SECTION LL-LL  
SCALE 5X



SECTION L-L  
SCALE 5X

DEO ATTACHED

RELEASED

DESIGN		PH	DART AEROSPACE USA, INC	
DRAWN		AJS	PORT HADLOCK, WA	
CHECKED			DRAWING NO.	REV. H
MFG. APPR.			D3391	SHEETS OF 8
APPROVED			TITLE	SCALE
DE APPR.			412 FLOAT SKIDTUBE	NTS
DATE		08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
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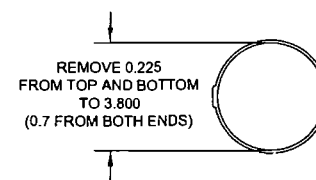
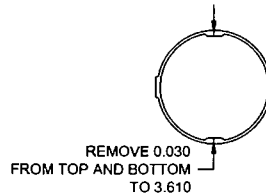
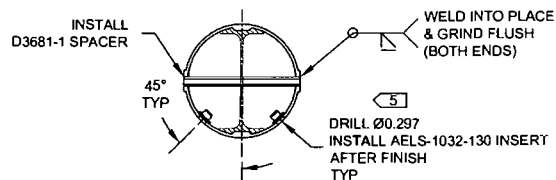
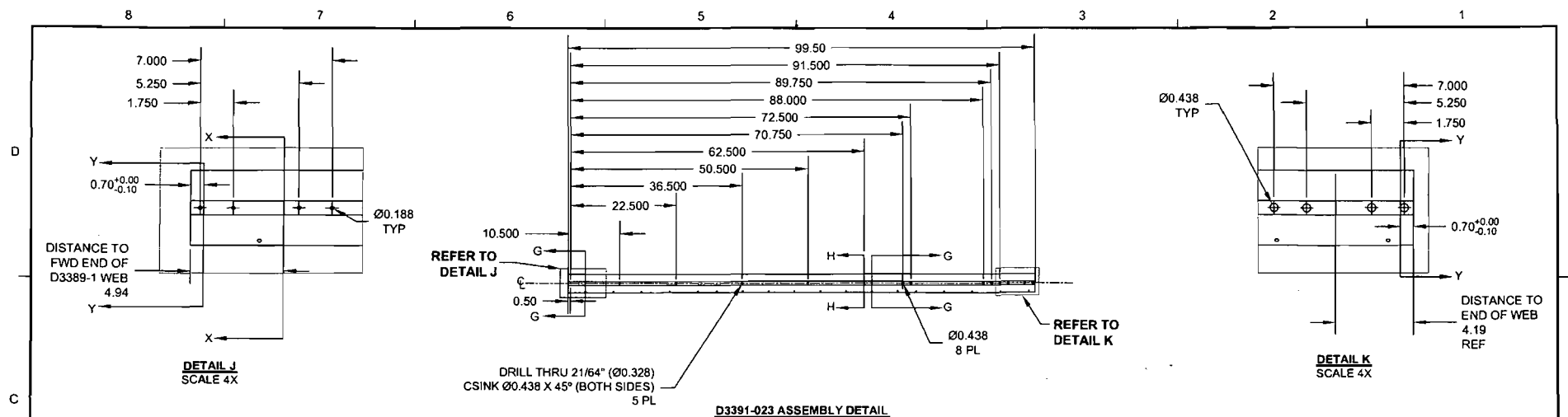
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



#### D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

#### D3391-023 MID TUBE ASSEMBLY

- MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- WELDING: PER DART QSI 004

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	AJS	PORT HADLOCK, WA
CHECKED		DRAWING NO. REV. H
MFG. APPR.		D3391 SHEET 6 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

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RELEASED  
08-08-20

W6 02975

**Dart Aerospace Ltd**

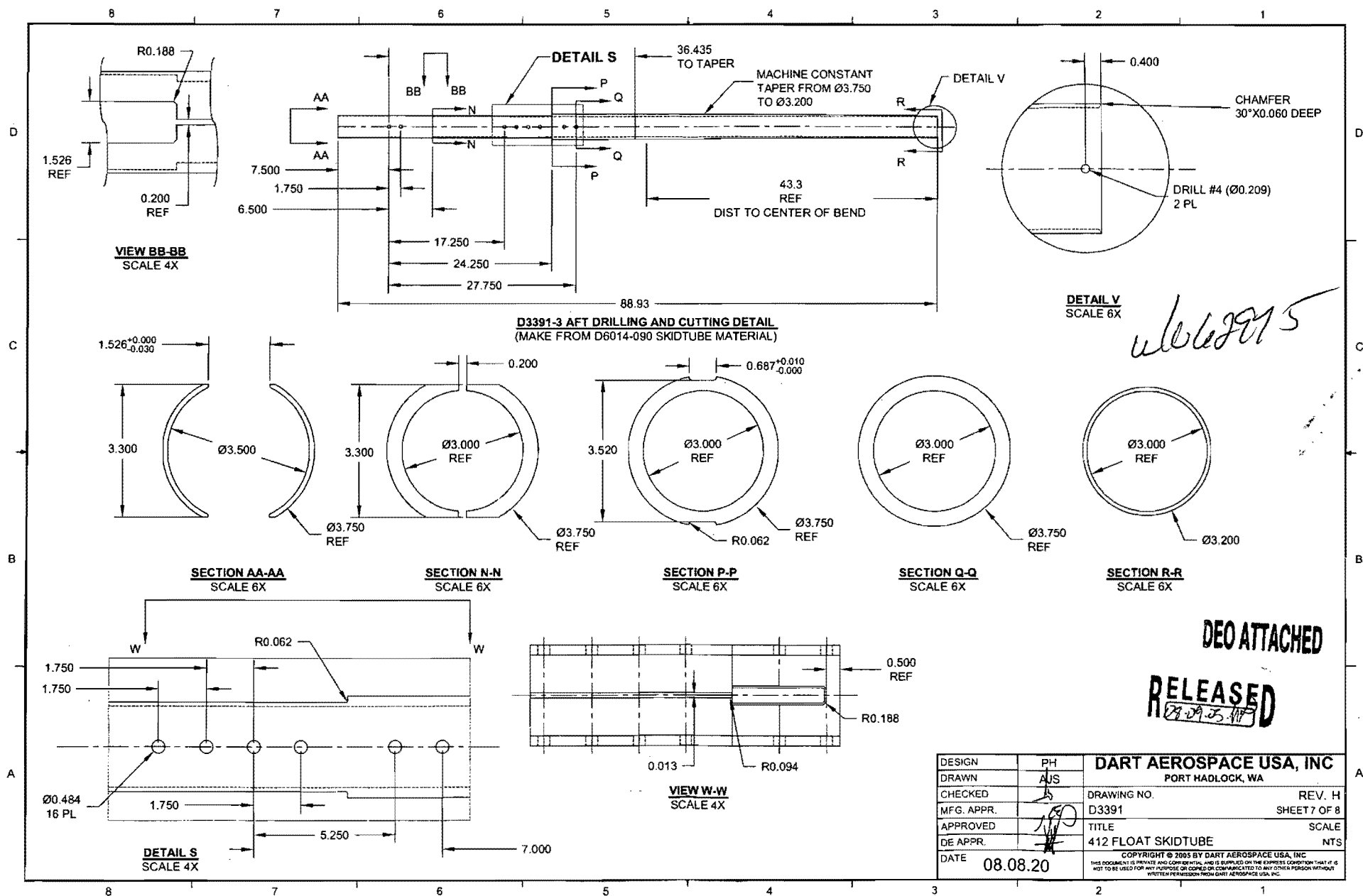
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





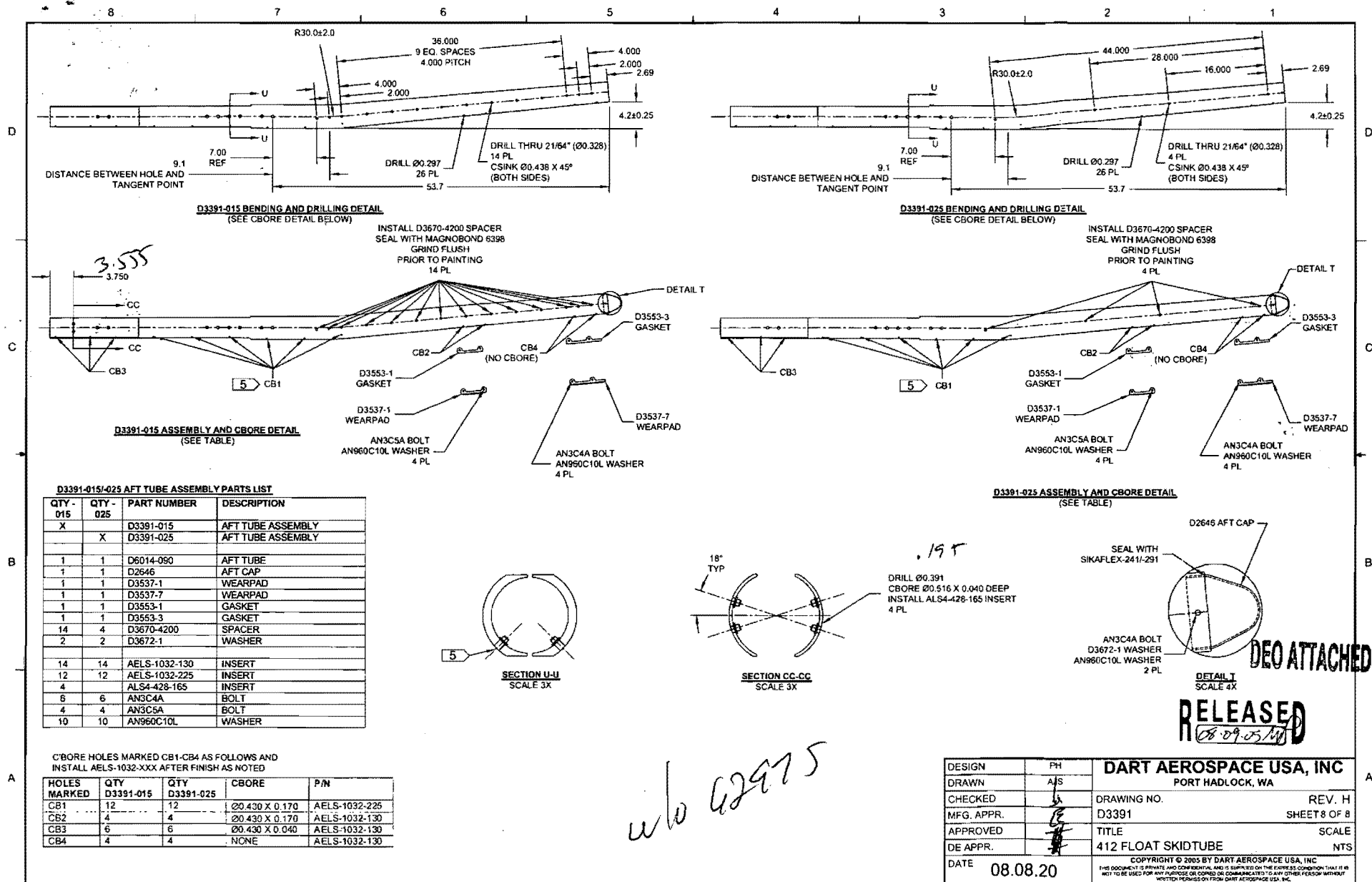
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

DRAWING NO. D3391	TITLE 412 FLOAT SKIDTUBE	REV. H	DART AEROSPACE USA, INC ENGINEERING ORDER		D.E.O. NO. D3391-H-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>h</i>	MFG. APPR. <i>MA</i>	APPROVED <i>MP</i>		DE APPR. <i>h</i>		
DATE 09.09.23	DATE <i>04.09.24</i>	DATE <i>09/09/25</i>	DATE <i>09/09/30</i>		DATE <i>09/09/30</i>		

**PURPOSE:**

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF D3391-041/-043 SKIDTUBES.

**CHANGE:**

AMEND NOTE 2 OF D3391-041/-043 SKIDTUBE ASSEMBLIES (ZN A6-1, A6-2) AS FOLLOWS:

- 2) ~~SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH~~  
~~AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH~~  
 LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS  
 OFF POWDER COATING WITH MEK DEGREASER.

**RELEASED**  
 2010-02-02  
*MP*

*celo 42925*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries